

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.

Welcome
United States Patent and Trademark Office

» Sea

[Help](#) [FAQ](#) [Terms](#) [IEEE Peer Review](#)[Quick Links](#)

Welcome to IEEE Xplore®

- ☐ Home
- ☐ What Can I Access?
- ☐ Log-out

Tables of Contents

- ☐ Journals & Magazines
- ☐ Conference Proceedings
- ☐ Standards

Search

- ☐ By Author
- ☐ Basic
- ☐ Advanced

Member Services

- ☐ Join IEEE
- ☐ Establish IEEE Web Account
- ☐ Access the IEEE Member Digital Library

IEEE Enterprise

- ☐ Access the IEEE Enterprise File Cabinet

Print Format

Your search matched **1** of **1074479** documents.A maximum of **500** results are displayed, **15** to a page, sorted by **Relevance Descending** order.

Refine This Search:

You may refine your search by editing the current search expression or enter a new one in the text box.

☐ Check to search within this result set

Results Key:

JNL = Journal or Magazine **CNF** = Conference **STD** = Standard**1 Bearing defect detection using on-board accelerometer measureme***Donelson, J., III; Dicus, R.L.;*

Railroad Conference, 2002 ASME/IEEE Joint , 23-25 April 2002

Pages:95 - 102

[\[Abstract\]](#) [\[PDF Full-Text \(1147 KB\)\]](#) **IEEE CNF**

[Home](#) | [Log-out](#) | [Journals](#) | [Conference Proceedings](#) | [Standards](#) | [Search by Author](#) | [Basic Search](#) | [Advanced Search](#) | [Join IEEE](#) | [Web Account](#) | [New this week](#) | [OPAC Linking Information](#) | [Your Feedback](#) | [Technical Support](#) | [Email Alerting](#) | [No Robots Please](#) | [Release Notes](#) | [IEEE Online Publications](#) | [Help](#) | [FAQ](#) | [Terms](#) | [Back to Top](#)

Copyright © 2004 IEEE — All rights reserved

[IEEE HOME](#) | [SEARCH IEEE](#) | [SHOP](#) | [WEB ACCOUNT](#) | [CONTACT IEEE](#)[Membership](#) | [Publications/Services](#) | [Standards](#) | [Conferences](#) | [Careers/Jobs](#)Welcome
United States Patent and Trademark Office[Help](#) | [FAQ](#) | [Terms](#) | [IEEE Peer Review](#)[Quick Links](#)>> [Sea](#)

Welcome to IEEE Xplore®

- ☐ Home
- ☐ What Can I Access?
- ☐ Log-out

Tables of Contents

- ☐ Journals & Magazines
- ☐ Conference Proceedings
- ☐ Standards

Search

- ☐ By Author
- ☐ Basic
- ☐ Advanced

Member Services

- ☐ Join IEEE
- ☐ Establish IEEE Web Account
- ☐ Access the IEEE Member Digital Library

IEEE Enterprise

- ☐ Access the IEEE Enterprise File Cabinet

Your search matched **1** of **1074479** documents.A maximum of **500** results are displayed, **15** to a page, sorted by **Relevance Descending** order.

Refine This Search:

You may refine your search by editing the current search expression or enter a new one in the text box.

☐ Check to search within this result set

Results Key:

JNL = Journal or Magazine **CNF** = Conference **STD** = Standard**1 Bearing defect detection using on-board accelerometer measureme***Donelson, J., III; Dicus, R.L.;*

Railroad Conference, 2002 ASME/IEEE Joint , 23-25 April 2002

Pages:95 - 102

[\[Abstract\]](#) [\[PDF Full-Text \(1147 KB\)\]](#) **IEEE CNF**

Print Format

[Home](#) | [Log-out](#) | [Journals](#) | [Conference Proceedings](#) | [Standards](#) | [Search by Author](#) | [Basic Search](#) | [Advanced Search](#) | [Join IEEE](#) | [Web Account](#) | [New this week](#) | [OPAC Linking Information](#) | [Your Feedback](#) | [Technical Support](#) | [Email Alerting](#) | [No Robots Please](#) | [Release Notes](#) | [IEEE Online Publications](#) | [Help](#) | [FAQ](#) | [Terms](#) | [Back to Top](#)

Copyright © 2004 IEEE — All rights reserved

Welcome
United States Patent and Trademark Office[Help](#) [FAQ](#) [Terms](#) [IEEE Peer Review](#)[Quick Links](#)» [Sea](#)

Welcome to IEEE Xplore®

- ☐ Home
- ☐ What Can I Access?
- ☐ Log-out

Tables of Contents

- ☐ Journals & Magazines
- ☐ Conference Proceedings
- ☐ Standards

Search

- ☐ By Author
- ☐ Basic
- ☐ Advanced

Member Services

- ☐ Join IEEE
- ☐ Establish IEEE Web Account
- ☐ Access the IEEE Member Digital Library

IEEE Enterprise

- ☐ Access the IEEE Enterprise File Cabinet

 Print FormatYour search matched **13** of **1074479** documents.A maximum of **500** results are displayed, **15** to a page, sorted by **Relevance Descending** order.

Refine This Search:

You may refine your search by editing the current search expression or enter a new one in the text box.

☐ Check to search within this result set

Results Key:

JNL = Journal or Magazine **CNF** = Conference **STD** = Standard1 **Wheel/rail profile studies***Leedham, R.C.; Nelson, S.;*

Railroad Conference, 1995., Proceedings of the 1995 IEEE/ASME Joint , 4-6 A 1995

Pages:159 - 162

[\[Abstract\]](#) [\[PDF Full-Text \(460 KB\)\]](#) **IEEE CNF**2 **RailTec system: extending the life of bolted rail***Archambeau, D.;*

Railroad Conference, 1989. Proceedings., Technical Papers Presented at the 1 IEEE/ASME Joint , 25-27 April 1989

Pages:63 - 67

[\[Abstract\]](#) [\[PDF Full-Text \(472 KB\)\]](#) **IEEE CNF**3 **Wheel/rail profile studies***Brekke, D.J.;*

Railroad Conference, 1996., Proceedings of the 1996 ASME/IEEE Joint , 30 Ap May 1996

Pages:83 - 90

[\[Abstract\]](#) [\[PDF Full-Text \(392 KB\)\]](#) **IEEE CNF**4 **Traction electrification and NEC compliance: the Portland light rail experience***Thomas, R.S.; Pham, K.D.;*

Railroad Conference, 1999. Proceedings of the 1999 ASME/IEEE Joint , 13-15 1999

Pages:28 - 32

[\[Abstract\]](#) [\[PDF Full-Text \(384 KB\)\]](#) **IEEE CNF**

5 Visual recognition of missing fastening elements for railroad maintenance

Stella, E.; Mazzeo, P.; Nitti, M.; Cicirelli, G.; Distante, A.; D'Orazio, T.;
Intelligent Transportation Systems, 2002. Proceedings. The IEEE 5th International Conference on , 2002
Pages:94 - 99

[\[Abstract\]](#) [\[PDF Full-Text \(553 KB\)\]](#) IEEE CNF

6 Operational and safety considerations in designing a light rail DC traction electrification system

Pham, K.D.; Thomas, R.S.; Stinger, W.E.;
Railroad Conference, 2003. Proceedings of the 2003 IEEE/ASME Joint , 22-24 2003
Pages:171 - 189

[\[Abstract\]](#) [\[PDF Full-Text \(1243 KB\)\]](#) IEEE CNF

7 Post-collision inspection and data analysis of a passenger rail car

MacNeill, R.A.; Kirkpatrick, S.W.;
Railroad Conference, 2002 ASME/IEEE Joint , 23-25 April 2002
Pages:1 - 8

[\[Abstract\]](#) [\[PDF Full-Text \(1330 KB\)\]](#) IEEE CNF

8 Determining profile and alignment using an optical technique with extrapolations

Carr, G.A.; Diaz, C.; Martin, G.A.;
Railroad Conference, 2002 ASME/IEEE Joint , 23-25 April 2002
Pages:109 - 115

[\[Abstract\]](#) [\[PDF Full-Text \(542 KB\)\]](#) IEEE CNF

9 Mid-life structural assessment of transit rail cars at WMATA

Taraszkiewicz, M.N.;
Railroad Conference, 2002 ASME/IEEE Joint , 23-25 April 2002
Pages:65 - 72

[\[Abstract\]](#) [\[PDF Full-Text \(592 KB\)\]](#) IEEE CNF

10 Rail defect diagnosis using wavelet packet decomposition

Abbaszadeh, K.; Rahimian, M.; Toliyat, H.A.; Olson, L.E.;
Industry Applications Conference, 2002. 37th IAS Annual Meeting. Conference Record of the , Volume: 1 , 13-18 Oct. 2002
Pages:478 - 484 vol.1

[\[Abstract\]](#) [\[PDF Full-Text \(1108 KB\)\]](#) IEEE CNF

11 Conrail's integrated automated wayside inspection

Steets, P.G.; Tse, Y.H.;
Railroad Conference, 1998. Proceedings of the 1998 ASME/IEEE Joint , 15-16 1998
Pages:113 - 125

[\[Abstract\]](#) [\[PDF Full-Text \(1304 KB\)\]](#) IEEE CNF

12 **The Baltimore Central Light Rail Line light rail vehicle procurement**
Edris, H.; Causey, R.;
Railroad Conference, 1995., Proceedings of the 1995 IEEE/ASME Joint , 4-6 A
1995
Pages:47 - 53

[\[Abstract\]](#) [\[PDF Full-Text \(504 KB\)\]](#) **IEEE CNF**

13 **Rail defect diagnosis using wavelet packet decomposition**
Toliyat, H.A.; Abbaszadeh, K.; Rahimian, M.M.; Olson, L.E.;
Industry Applications, IEEE Transactions on , Volume: 39 , Issue: 5 , Sept.-O
2003
Pages:1454 - 1461

[\[Abstract\]](#) [\[PDF Full-Text \(924 KB\)\]](#) **IEEE JNL**

[Home](#) | [Log-out](#) | [Journals](#) | [Conference Proceedings](#) | [Standards](#) | [Search by Author](#) | [Basic Search](#) | [Advanced Search](#) | [Join IEEE](#) | [Web Account](#) |
[New this week](#) | [OPAC Linking Information](#) | [Your Feedback](#) | [Technical Support](#) | [Email Alerting](#) | [No Robots Please](#) | [Release Notes](#) | [IEEE Online](#)
[Publications](#) | [Help](#) | [FAQ](#) | [Terms](#) | [Back to Top](#)

Copyright © 2004 IEEE — All rights reserved

Welcome
United States Patent and Trademark Office[Help](#) | [FAQ](#) | [Terms](#) | [IEEE Peer Review](#)[Quick Links](#)» [Sea](#)

Welcome to IEEE Xplore®

- ☐ Home
- ☐ What Can I Access?
- ☐ Log-out

Tables of Contents

- ☐ Journals & Magazines
- ☐ Conference Proceedings
- ☐ Standards

Search

- ☐ By Author
- ☐ Basic
- ☐ Advanced

Member Services

- ☐ Join IEEE
- ☐ Establish IEEE Web Account
- ☐ Access the IEEE Member Digital Library

IEEE Enterprise

- ☐ Access the IEEE Enterprise File Cabinet

Your search matched **0** of **1074479** documents.A maximum of **500** results are displayed, **15** to a page, sorted by **Relevance Descending** order.

Refine This Search:

You may refine your search by editing the current search expression or enter a new one in the text box.

☐ Check to search within this result set

Results Key:

JNL = Journal or Magazine **CNF** = Conference **STD** = Standard

Results:

No documents matched your query.[Print Format](#)[Home](#) | [Log-out](#) | [Journals](#) | [Conference Proceedings](#) | [Standards](#) | [Search by Author](#) | [Basic Search](#) | [Advanced Search](#) | [Join IEEE](#) | [Web Account](#) | [New this week](#) | [OPAC Linking Information](#) | [Your Feedback](#) | [Technical Support](#) | [Email Alerting](#) | [No Robots Please](#) | [Release Notes](#) | [IEEE Online Publications](#) | [Help](#) | [FAQ](#) | [Terms](#) | [Back to Top](#)

Copyright © 2004 IEEE — All rights reserved

IEEE Xplore®
RELEASE 1.8Welcome
United States Patent and Trademark Office

» Sea

[Help](#) | [FAQ](#) | [Terms](#) | [IEEE Peer Review](#)[Quick Links](#)**Welcome to IEEE Xplore®**

- ☐ Home
- ☐ What Can I Access?
- ☐ Log-out

Tables of Contents

- ☐ Journals & Magazines
- ☐ Conference Proceedings
- ☐ Standards

Search

- ☐ By Author
- ☐ Basic
- ☐ Advanced

Member Services

- ☐ Join IEEE
- ☐ Establish IEEE Web Account
- ☐ Access the IEEE Member Digital Library

IEEE Enterprise

- ☐ Access the IEEE Enterprise File Cabinet

Your search matched **0** of **1074479** documents.A maximum of **500** results are displayed, **15** to a page, sorted by **Relevance Descending** order.**Refine This Search:**

You may refine your search by editing the current search expression or enter a new one in the text box.

☐ Check to search within this result set**Results Key:****JNL** = Journal or Magazine **CNF** = Conference **STD** = Standard**Results:****No documents matched your query.** [Print Format](#)[Home](#) | [Log-out](#) | [Journals](#) | [Conference Proceedings](#) | [Standards](#) | [Search by Author](#) | [Basic Search](#) | [Advanced Search](#) | [Join IEEE](#) | [Web Account](#) | [New this week](#) | [OPAC Linking Information](#) | [Your Feedback](#) | [Technical Support](#) | [Email Alerting](#) | [No Robots Please](#) | [Release Notes](#) | [IEEE Online Publications](#) | [Help](#) | [FAQ](#) | [Terms](#) | [Back to Top](#)

Copyright © 2004 IEEE — All rights reserved

[IEEE HOME](#) | [SEARCH IEEE](#) | [SHOP](#) | [WEB ACCOUNT](#) | [CONTACT IEEE](#)[Membership](#) | [Publications/Services](#) | [Standards](#) | [Conferences](#) | [Careers/Jobs](#)**IEEE Xplore**
RELEASE 1.8Welcome
United States Patent and Trademark Office

» Sea

[Help](#) | [FAQ](#) | [Terms](#) | [IEEE Peer Review](#)[Quick Links](#)**Welcome to IEEE Xplore®**

- ☐ Home
- ☐ What Can I Access?
- ☐ Log-out

Tables of Contents

- ☐ Journals & Magazines
- ☐ Conference Proceedings
- ☐ Standards

Search

- ☐ By Author
- ☐ Basic
- ☐ Advanced

Member Services

- ☐ Join IEEE
- ☐ Establish IEEE Web Account
- ☐ Access the IEEE Member Digital Library

IEEE Enterprise

- ☐ Access the IEEE Enterprise File Cabinet

Your search matched **0** of **1074479** documents.A maximum of **500** results are displayed, **15** to a page, sorted by **Relevance Descending** order.**Refine This Search:**

You may refine your search by editing the current search expression or enter a new one in the text box.

☐ Check to search within this result set**Results Key:****JNL** = Journal or Magazine **CNF** = Conference **STD** = Standard**Results:****No documents matched your query.** [Print Format](#)[Home](#) | [Log-out](#) | [Journals](#) | [Conference Proceedings](#) | [Standards](#) | [Search by Author](#) | [Basic Search](#) | [Advanced Search](#) | [Join IEEE](#) | [Web Account](#) | [New this week](#) | [OPAC Linking Information](#) | [Your Feedback](#) | [Technical Support](#) | [Email Alerting](#) | [No Robots Please](#) | [Release Notes](#) | [IEEE Online Publications](#) | [Help](#) | [FAQ](#) | [Terms](#) | [Back to Top](#)

Copyright © 2004 IEEE — All rights reserved



Welcome to IEEE Xplore®

- ☐ Home
- ☐ What Can I Access?
- ☐ Log-out

Tables of Contents

- ☐ Journals & Magazines
- ☐ Conference Proceedings
- ☐ Standards

Search

- ☐ By Author
- ☐ Basic
- ☐ Advanced

Member Services

- ☐ Join IEEE
- ☐ Establish IEEE Web Account
- ☐ Access the IEEE Member Digital Library

IEEE Enterprise

- ☐ Access the IEEE Enterprise File Cabinet



Your search matched **15** of **1074479** documents.

A maximum of **500** results are displayed, **15** to a page, sorted by **Relevance Descending** order.

Refine This Search:

You may refine your search by editing the current search expression or enter a new one in the text box.

☐ Check to search within this result set**Results Key:**

JNL = Journal or Magazine **CNF** = Conference **STD** = Standard

1 New criteria for flange climb derailment

Elkins, J.; Huimun Wu;

Railroad Conference, 2000. Proceedings of the 2000 ASME/IEEE Joint , 4-6 Ap 2000

Pages:1 - 7

[\[Abstract\]](#) [\[PDF Full-Text \(528 KB\)\]](#) **IEEE CNF**

2 Qualification testing of Portland's low floor light rail vehicle

Porter, D.L.; Cobb, L.M.;

Railroad Conference, 1997., Proceedings of the 1997 IEEE/ASME Joint , 18-20 March 1997

Pages:221 - 235

[\[Abstract\]](#) [\[PDF Full-Text \(952 KB\)\]](#) **IEEE CNF**

3 Wheel/rail adhesion wear investigation using a quarter scale labora testing facility

Kumar, S.; Alzoubi, M.F.; Allsayyed, N.A.;

Railroad Conference, 1996., Proceedings of the 1996 ASME/IEEE Joint , 30 Ap May 1996

Pages:247 - 254

[\[Abstract\]](#) [\[PDF Full-Text \(496 KB\)\]](#) **IEEE CNF**

4 Rail car impact tests with steel coil: collision dynamics

Jacobsen, K.; Tyrell, D.; Perlman, B.;

Railroad Conference, 2003. Proceedings of the 2003 IEEE/ASME Joint , 22-24 2003

Pages:73 - 82

[\[Abstract\]](#) [\[PDF Full-Text \(1269 KB\)\]](#) **IEEE CNF**

5 A design for next generation load measuring wheel sets*Otter, D.E.; El-Sibaie, M.A.; Higgins, R.L.;*

Railroad Conference, 1991., Proceedings of the 1991 IEEE/ASME Joint , 21-23 1991

Pages:37 - 42

[\[Abstract\]](#) [\[PDF Full-Text \(472 KB\)\]](#) IEEE CNF**6 Benefits of a driver advice system for light rail commuter lines***English, G.W.; Benjamin, B.R.; Pudney, P.J.;*

Railroad Conference, 1990., Technical Papers Presented at the 1990 ASME/IE Joint , 17-19 April 1990

Pages:47 - 55

[\[Abstract\]](#) [\[PDF Full-Text \(688 KB\)\]](#) IEEE CNF**7 A discrete event simulation for the crew assignment process in Nort American freight railroads***Guttkuhn, R.; Dawson, T.; Trutschel, U.;*

Simulation Conference, 2003. Proceedings of the 2003 Winter , Volume: 2 , 7 Dec. 2003

Pages:1686 - 1692 vol.2

[\[Abstract\]](#) [\[PDF Full-Text \(580 KB\)\]](#) IEEE CNF**8 Intelligent system for real-time prediction of railway vehicle respon the interaction with track geometry***Bonaventura, C.S.; Palese, J.W.; Zarembki, A.M.;*

Railroad Conference, 2000. Proceedings of the 2000 ASME/IEEE Joint , 4-6 Ap 2000

Pages:31 - 45

[\[Abstract\]](#) [\[PDF Full-Text \(960 KB\)\]](#) IEEE CNF**9 Wheel forces during flange climb. II. NUCARS simulations***Elkins, J.A.; Shust, W.C.;*

Railroad Conference, 1997., Proceedings of the 1997 IEEE/ASME Joint , 18-20 March 1997

Pages:149 - 156

[\[Abstract\]](#) [\[PDF Full-Text \(588 KB\)\]](#) IEEE CNF**10 On the dynamics of the three-piece-freight truck***Fujie Xia; True, H.;*

Railroad Conference, 2003. Proceedings of the 2003 IEEE/ASME Joint , 22-24 2003

Pages:149 - 159

[\[Abstract\]](#) [\[PDF Full-Text \(989 KB\)\]](#) IEEE CNF**11 Development of a computer model for prediction of collision respon a railroad passenger car***Kirkpatrick, S.W.; MacNeill, R.A.;*

Railroad Conference, 2002 ASME/IEEE Joint , 23-25 April 2002

Pages:9 - 16

[\[Abstract\]](#) [\[PDF Full-Text \(1598 KB\)\]](#) IEEE CNF

12 Energy savings through regenerative braking using retrofit convert
Flinders, F.; Mathew, R.; Oghanna, W.;
Railroad Conference, 1995., Proceedings of the 1995 IEEE/ASME Joint , 4-6 A
1995
Pages:55 - 61

[\[Abstract\]](#) [\[PDF Full-Text \(548 KB\)\]](#) IEEE CNF

13 Computer modeling, simulation, and validation by field testing of a traction power system for electric trolley buses
Kutsmada, K.J.; Fehrle, K.G.; Trick, P.J.;
Railroad Conference, 1995., Proceedings of the 1995 IEEE/ASME Joint , 4-6 A
1995
Pages:87 - 91

[\[Abstract\]](#) [\[PDF Full-Text \(392 KB\)\]](#) IEEE CNF

14 Does a critical speed for railroad vehicles exist?
True, H.;
Railroad Conference, 1994., Proceedings of the 1994 ASME/IEEE Joint (in
Conjunction with Area 1994 Annual Technical Conference) , 22-24 March 1994
Pages:125 - 131

[\[Abstract\]](#) [\[PDF Full-Text \(392 KB\)\]](#) IEEE CNF

15 Development and validation of a general vehicle dynamics simulati (NUCARS)
Blader, F.B.; Elkins, J.A.; Wilson, N.G.; Kaluser, P.E.;
Railroad Conference, 1989. Proceedings., Technical Papers Presented at the 1
IEEE/ASME Joint , 25-27 April 1989
Pages:39 - 46

[\[Abstract\]](#) [\[PDF Full-Text \(648 KB\)\]](#) IEEE CNF

[Home](#) | [Log-out](#) | [Journals](#) | [Conference Proceedings](#) | [Standards](#) | [Search by Author](#) | [Basic Search](#) | [Advanced Search](#) | [Join IEEE](#) | [Web Account](#) |
[New this week](#) | [OPAC Linking Information](#) | [Your Feedback](#) | [Technical Support](#) | [Email Alerting](#) | [No Robots Please](#) | [Release Notes](#) | [IEEE Online Publications](#) | [Help](#) | [FAQ](#) | [Terms](#) | [Back to Top](#)

Copyright © 2004 IEEE — All rights reserved